

# Indiana Department of Environmental Management

## Geographic Information Systems

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# Topics

- The importance of geographic context
- GIS at the Office of Land Quality
- GIS – Potential uses in redevelopment projects
- GIS – Available resources

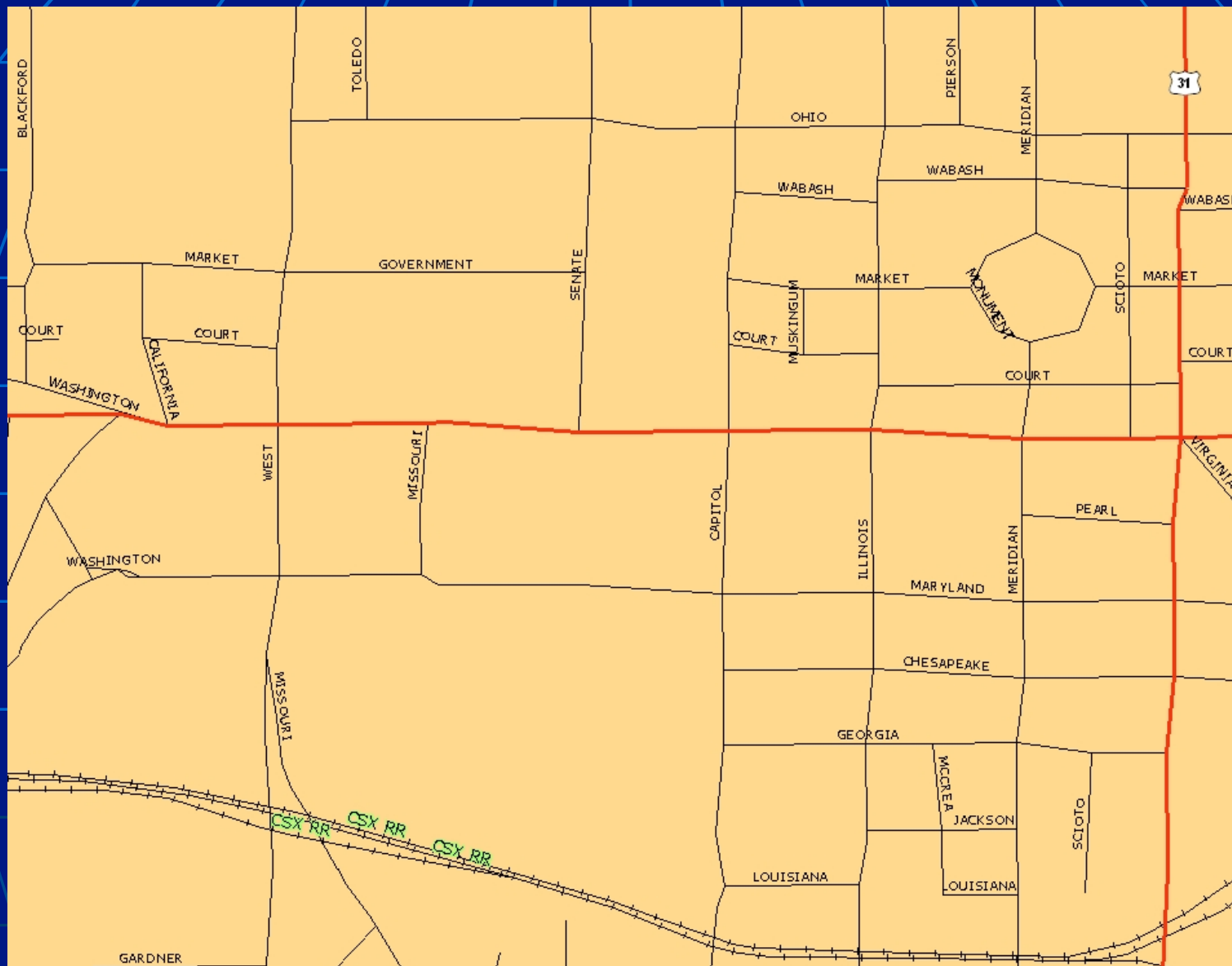
# Geographic Context

- Jeff's working definition - Where my point of interest is located with respect to other stuff.
- A map illustrating the geographic context of my point of interest is going to help me to have a clear understanding of my project.
  - How is the location of my point of interest working to the advantage of the project?
  - How is the location working against the project objective?
- A good map facilitates communication and understanding of the project among the project team and other stakeholders.

# Geographic context illustrated

Point of Interest - A monument inside a circular street.

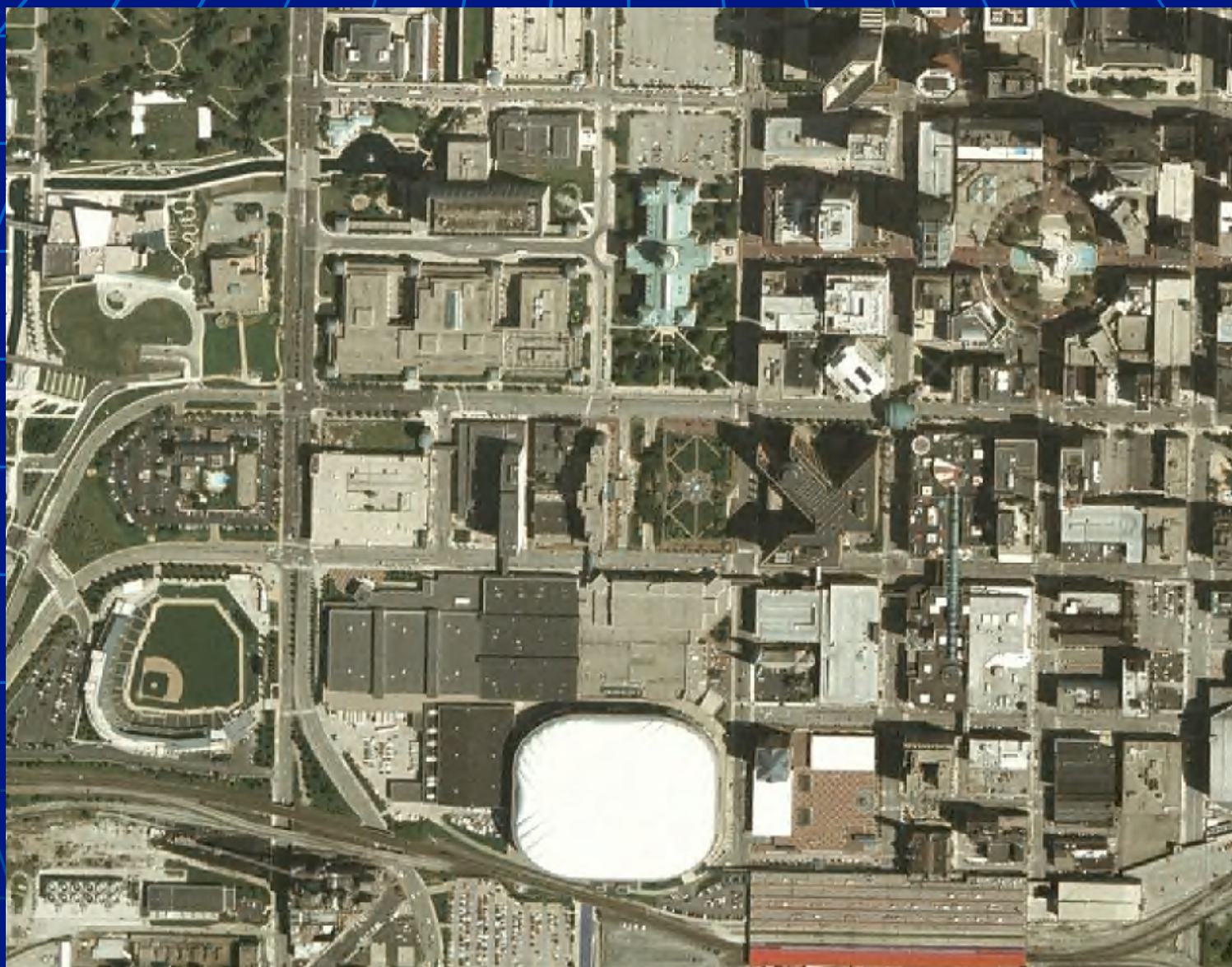
The better the map (the better the data that builds the map) the clearer the understanding.



Basic vector map  
Census 2000 data





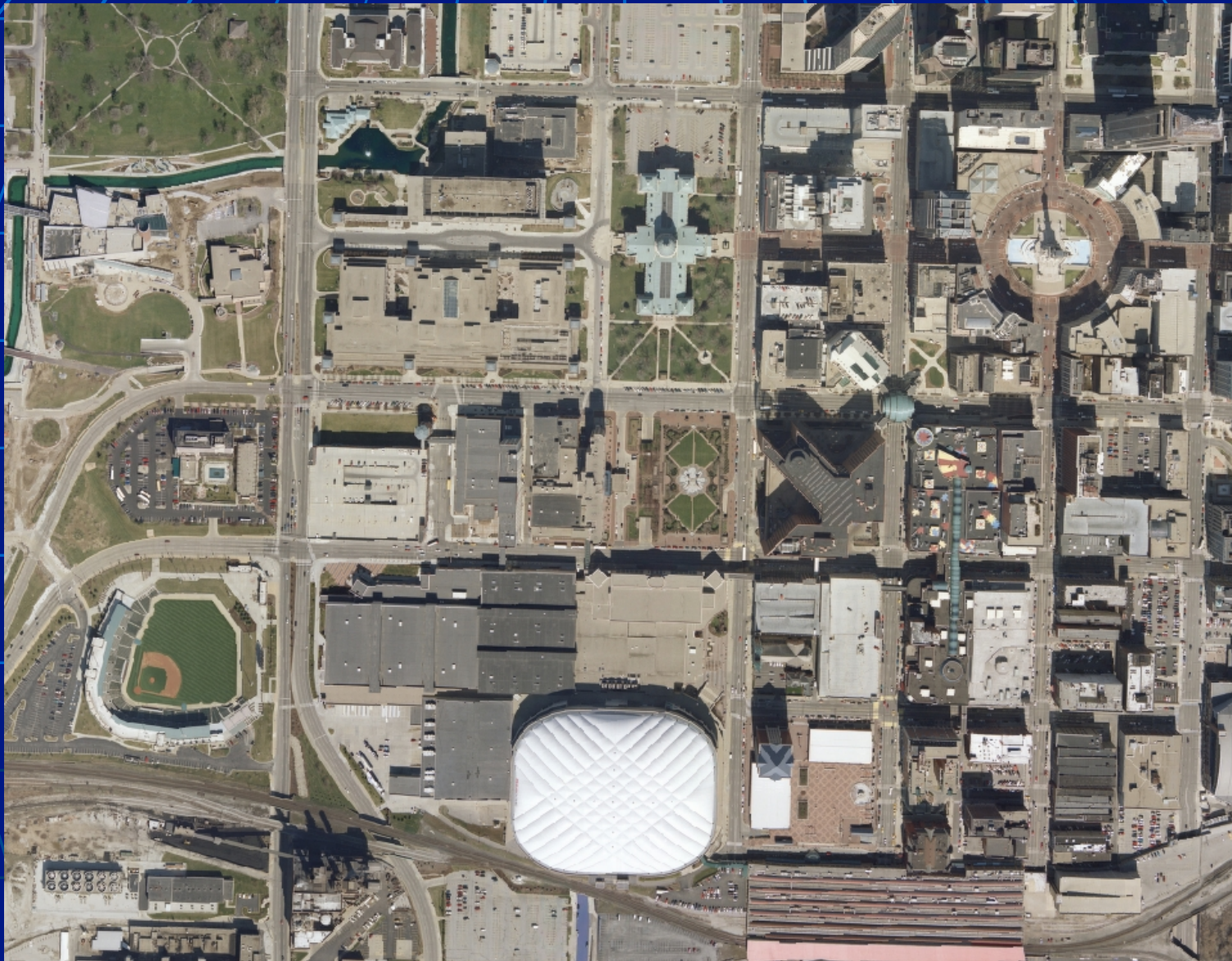


Aerial Orthophotography  
1 meter pixel resolution - NAIP 2003



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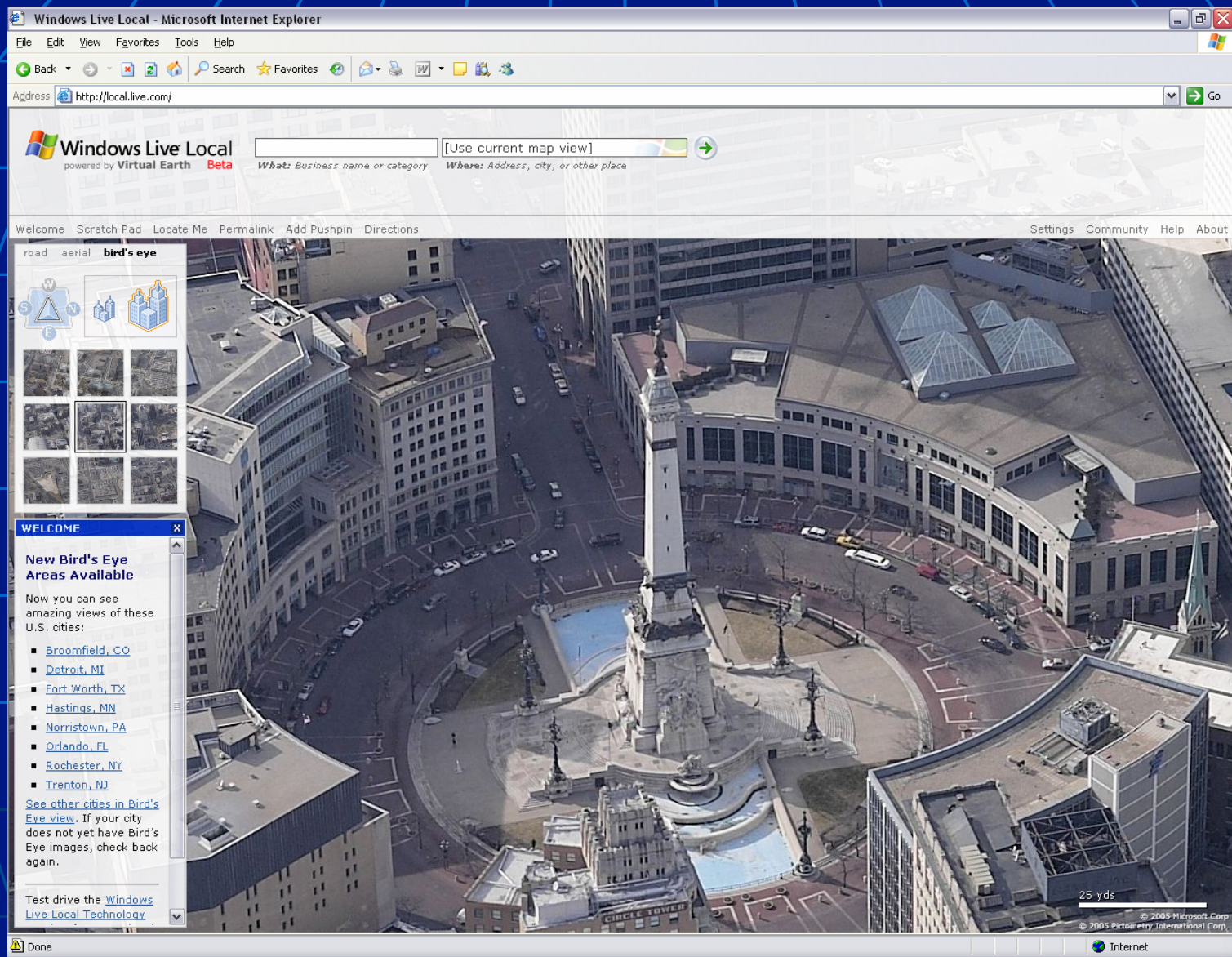
Aerial Orthophotography  
1 foot pixel resolution - IMAGIS





Aerial Orthophotography  
1 foot pixel resolution - IMAGIS





Oblique Aerial Orthophotography  
local.live.com

# GIS at the Office of Land Quality

GIS Services for remediation project work.

- Helping project managers & technical staff understand and communicate the geographic context of their projects – Making Maps.
  - Where is the project?
  - What types of buildings, activities, and natural features are nearby?
  - Where are environmental impacts likely to be coming from?
  - Where are environmental impacts likely to be headed to?
  - Where is there a potential for people to be affected by environmental impacts?



# GIS at the Office of Land Quality

## ■ Providing GIS Analysis

- Prioritizing projects based on potential for human impacts. (Proximity to public water supply wells)
- Using GIS tools to model & visualize contaminant plumes.
- Mapping sites & projects with overlapping impacts using the "industrial corridor" approach.

## ■ Providing GIS tools & training to facilitate self-service.

- Web-based GIS facility browser
- Acquiring, developing & maintaining GIS data – (The point locations of facilities regulated by the office is our main GIS data product.)
- GPS training and data management – work processes that develop data.

# GIS at the Office of Land Quality

- Participating in statewide GIS initiatives
  - IGIC & related committees
  - State GIS Center for Excellence
  - Northwest Indiana GIS Forum
  - Cooperating with local GIS efforts.
- Working to integrate GIS tools into office data management systems.
- Providing GIS technology development and support for environmental emergency response activities. (ER\_GIS Project)
- Cooperating with DHS to provide GIS personnel to staff the emergency operation center.

# GIS – Potential uses in redevelopment projects

"A problem well stated is half-solved."  
- John Dewey

Which brings me back to...



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# GIS in redevelopment

Can help project managers understand and communicate

- Where is the project?
- What types of buildings, activities, and natural features are nearby?
- What are the real or perceived environmental issues and where are they?
- What is the big picture for redevelopment in the area including brownfield projects and neighborhood revitalization projects.
- What are the key selling points for the project?
- What are the key challenges for the project?

# GIS in redevelopment

- An aerial photograph is an excellent and relatively easy first step in providing the picture of your project that is worth a thousand words. Take advantage of the statewide Orthophotography.
- Many cities, towns and counties have GIS or are developing it. Find out what is going on locally. Support and encourage it. Use local services.
- Local data is often more detailed and more useful than state or national data. Ask for it – often the evidence of demand helps justify additional GIS development and services.
- Dig into GIS resources...



# GIS Resources

[www.in.gov/ingisi](http://www.in.gov/ingisi) – Indiana Geographic Information Council/Indiana GIS Initiative website. Your connection to GIS in Indiana. GIS Data Clearinghouse

[www.mapquest.com](http://www.mapquest.com) – Map an address, get directions. Other useful mapping tools.

[www.google.com](http://www.google.com) (google earth & google map)

[gis.iu.edu](http://gis.iu.edu) – IU's Indiana Spatial Data Portal – Aerial photography downloads.

[igs.indiana.edu](http://igs.indiana.edu) – Indiana Geological Survey website with GIS map browsers and data downloads including much of the state's GIS data.

[www.geo-one-stop.gov](http://www.geo-one-stop.gov) – National Spatial Data Infrastructure – GIS map browsers and data downloads for national and state data.

[www.epa.gov/enviro](http://www.epa.gov/enviro) – EPA Envirofacts website including GIS data browser and downloads.

# GIS Resources

[www.esri.com](http://www.esri.com) — GIS software company with downloads for free GIS software including ArcReader and ArcExplorer

[www.ddti.net](http://www.ddti.net) — GIS software company with downloads of free GIS software – Accuglobe and for-fee plugins.

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